

## *Festucalex prolixus*, a New Species of Pipefish (Syngnathidae) from the Western Indo-Pacific Region

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(Received September 9, 1983)

**Abstract** Differing from other known pipefishes with caudal fin and continuous superior and inferior body ridges by the combination of 19~20 trunk rings and lateral trunk ridge ending on the 10th~13th tail ring, this new species is provisionally referred to the genus *Festucalex* Whitley 1931, pending collection of adults. The planktonic type material was taken in the upper 0~167 m over depths of 1,280~4,825 m in the Sulu and Celebes seas and off northwestern Irian Jaya. Subadults-adults are expected to occur in depths >40 m.

I here describe a new species of pipefish from juvenile planktonic specimens collected in the western Indo-Pacific region by the 1928~30 DANA expedition. This species clearly differs from other known pipefishes, and I see no need to postpone its description until adults are available for study.

Measurements are, in part, referred to standard length (SL) and head length (HL); other methods are those of Dawson (1977). Collections were made with an open 2 meter (m) stramin net; depth of capture is considered to range from the surface to the estimated average depth of tow, as calculated from wire angle and meters of wire payed out; station depths are from echo soundings. Specimens are deposited in the Gulf Coast Research Laboratory Museum (GCRL) and the Zoologisk Museum, University of Copenhagen (ZMUC).

### *Festucalex prolixus* sp. nov.

(Figs. 1~3)

**Holotype.** ZMUC P. 39741 (36.2 mm SL, juvenile). Sulu Sea, 07°22'N, 121°16'E, in 0~100 m over 4,825 m, 5 Apr. 1929, DANA Sta. 3685 III.

**Paratypes.** Sulu Sea: GCRL 20922 (1, 26.5), taken with holotype. Northern Celebes Sea: GCRL 20921 (1, 29.6) and ZMUC P. 39742 (1, 29.7), 06°29'N, 122°27'E, in 0~100 m over 3,300 m, 1 July 1929, DANA Sta. 3738 III. Off NW Irian Jaya:

ZMUC P. 39743 (1, 22.3), 00°30'30"S, 134°13'E, in 0~100 m over 2,800 m, 15 July 1929, DANA Sta. 3755 III; ZMUC P. 39744 (1, 27.7), 00°50'S, 134°11'E, in 0~167 m over 1,280 m, 27 July 1929, DANA Sta. 3773 I.

**Diagnosis.** Trunk rings 19~20, lateral trunk ridge ends on 10th~13th tail ring.

**Description.** Rings 19~20+32~35=51~54, dorsal-fin rays 21~23, subdorsal rings 2.0~1.25+4.25~5.25=5.75~6.5, pectoral-fin rays 13~14, anal-fin rays 4, caudal-fin rays 10. Counts and measurements (mm) of holotype: rings 19+34, dorsal-fin rays 22, subdorsal rings 1.5+4.5, pectoral-fin rays 13 (each fin), lateral trunk ridge ends, bilaterally, at posterior margin of 10th tail ring, SL 36.2, HL 4.8, snout length 1.8, snout depth 0.8, length of dorsal-fin base 3.7, anal-ring depth 1.4, trunk depth 1.7, pectoral-fin length 0.8. Proportional data, based on 4 specimens 27.7~36.2 ( $\bar{x}$ =30.8) mm SL, follow: HL in SL 6.8~7.5 (7.0), snout length in HL 2.3~2.7 (2.4), snout depth in snout length 2.7~3.6 (2.9), anal ring depth in HL 3.4~5.1 (4.5), trunk depth in HL 2.8~3.6 (3.3).

Median dorsal snout ridge (Fig. 2) low, somewhat emarginate in lateral aspect, ends near vertical through nares, the margin entire; snout compressed laterally; supraorbital ridges flared dorsolaterad, terminate anteriorly near posterior end of median dorsal snout ridge;

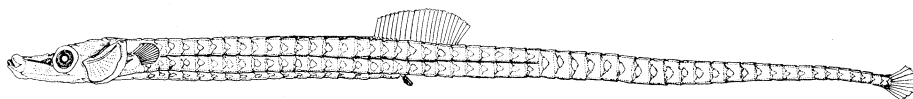


Fig. 1. *Festucalex prolixus* sp. nov., holotype, 36.2 mm SL (ZMUC P. 39741).

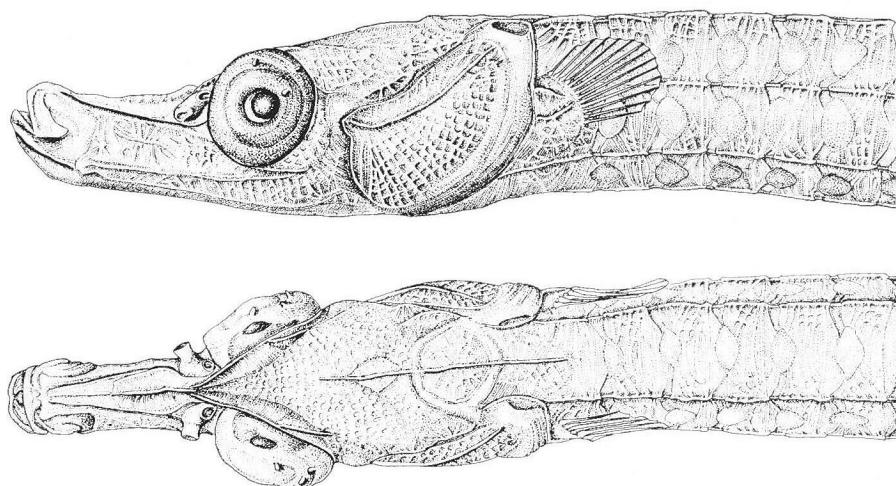


Fig. 2. *Festucalex prolixus* sp. nov. Lateral and dorsal aspects of head and anterior trunk rings. From holotype, 36.2 mm SL (ZMUC P. 39741).



Fig. 3. *Festucalex prolixus* sp. nov., paratype, 27.7 mm SL (ZMUC P. 39744).

longitudinal opercular ridge complete, angled upward toward gill opening, somewhat protruding in front, lower on posterior half of opercle; other head ridges distinct, not elevated strongly; pectoral-fin base with prominent superior and inferior ridges. Superior and inferior trunk ridges confluent with their respective tail ridges; lateral trunk ridge straight throughout, ends midlaterally between posterior margins of 9th~13th tail rings; principal body ridges distinct, low, those of the tail rings not flared strongly laterad, the margins essentially entire; scutella not keeled; dermal flaps present or absent; dorsal-fin base not elevated; pectoral and caudal fins rounded.

Study material tan in preservative, without distinctive markings.

**Etymology.** In allusion to the elongate

lateral trunk ridge, this species is named *prolixus*, from the Latin, meaning stretched out or long.

**Comparisons.** The combination of 19~20 trunk rings, continuous superior and inferior body ridges, long lateral trunk ridge, absence of flared and hook-like tail ridges, and presence of dorsal, pectoral and anal fins and a 10-rayed caudal fin distinguishes this species from all pipefishes. Relationships are uncertain but this principal body ridge configuration is found only among urophorine (tail-pouch) pipefishes, and present material shows nothing to suggest that any of the fins will be lost in adults.

I have shown (Dawson, 1977) that there are three urophorine genera (*Campichthys* Whitley, *Festucalex* Whitley, *Phoxocampus* Dawson) which have a 10-rayed caudal fin, share the

present body ridge configuration, and have the full complement of fins in both juveniles and adults. This new species does not fully conform to the current diagnosis of any of these Indo-Pacific genera, but it is provisionally referred to the genus *Festucalex* due to general agreement in most morphological features and meristic values. Compared to congeners, *F. prolixus* differs principally in having the median dorsal snout ridge ending above the nares rather than on the interorbital, and in having a much longer lateral trunk ridge (reaches 10th~13th tail ring versus 1st~5th in congeners). Additionally, the minute dermal flaps on the eye of the holotype of *F. prolixus* (Fig. 2) are not found on the eye in other species of *Festucalex*.

Although the long lateral trunk ridge is shared with one species of the genus *Phoxocampus* (reaches 13th~19th tail ring in *P. tetrophthalmus* (Bleeker)), representatives of this genus differ from *Festucalex prolixus* in having fewer trunk rings (15~17 versus 19~20), and in having flared and hook-like tail ridges in both juveniles and adults. Compared to species of the genus *Campichthys*, *Festucalex prolixus* differs in having more trunk rings and pectoral-fin rays (respectively, 19~20 and 13~14 versus 13~17 and 7~11 in *Campichthys*), and in having a low and emarginate median dorsal snout ridge (ridge elevated or with dorsal projections in *Campichthys*).

**Remarks.** The holotype has a short and rather deep snout, whereas the snout is relatively longer and more slender in the paratypes (Fig. 3). Such differences are within the expected range of ontogenetic variation in planktonic juveniles and I consider all specimens to be conspecific. Although dermal flaps are only present on the eye of the holotype and they are

apparently lacking on the paratypes, I expect that dermal flaps will be present on both head and body of adults.

Absence of *Festucalex prolixus* from the many other collections I have examined from the Indo-Pacific region suggests that the presumably demersal population of subadults-adults occupies depths greater than those commonly sampled for reef and inshore pipefishes (i.e. >40 m).

#### Acknowledgments

I thank J. Nielsen and E. Bertelsen (ZMUC) for permitting my study of the DANA material and for donating specimens to the GCRL collection. Drawings are by Mrs. Yasue Matthews.

#### Literature cited

Dawson, C. E. 1977. Synopsis of syngnathine pipefishes usually referred to the genus *Ichthyocampus* Kaup, with description of new genera and species. Bull. Mar. Sci., 27 (4): 595~650.

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#### インド・西太平洋から得られたアマクサヨウジ属の 1 新種

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アマクサヨウジ属の 1 新種を Dana expedition によって得られた幼魚に基づいて記載した。本種は他のヨウジウオ科魚類から以下の形質の組合わせによって識別される：尾鰭をもつ、軀幹部と尾部の上隆起線と下隆起線は連続する、軀幹部の体輪数が 19~20、軀幹部の中央隆起線が尾部の 10~13 番目の体輪上で終わる。本種の成魚が得られていないので、アマクサヨウジウオ属への分類は暫定的なものである。プランクトン期の標本はスル海とセレベス海およびイリアンジャヤの北西沖 1,280~4,825 m 深の海域の 0~167 m 深で採集された。若魚と成魚は 40 m 以深で採集されると考えられる。